

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended): A mesoporous inorganic material having an ordered array structure of a plurality of one-dimensional pores, wherein the entrances of said pores have a functional groups capable of forming a bond therebetween based on a chemical reaction in response to an external stimulus and said functional groups are not present within said pores.
2. (original): The mesoporous inorganic material as defined in claim 1, which is one selected from the group consisting of silica, titania, zirconia, alumina, silica-alumina, silica-titania, tin phosphate, niobium phosphate, aluminum phosphate, titanium phosphate, and the oxides, nitrides, sulfides, selenides, tellurides, composite oxides and composite salts thereof.
3. (original): The mesoporous inorganic material as defined in claim 1, wherein said external stimulus is at least one selected from the group consisting of light, heat, a radioactive ray, an acid, an alkali, a crosslinking agent, magnetism and an ion.
4. (original): The mesoporous inorganic material as defined in claim 1, wherein said chemical reaction is at least one selected from the group consisting of a dimerization reaction, a multimerization reaction, a polymerization reaction, a condensation reaction, an addition reaction and a complex-formation reaction.
5. (currently amended): The mesoporous inorganic material as defined in claim 1, wherein said functional groups ~~is~~are at least one selected from the group consisting of an

unsaturated group, a carboxyl group, a hydroxyl group, an amino group, an amide group, an ether group, an ester group, a carbamate group and a silane group.

6. (currently amended): The mesoporous inorganic material as defined in claim 1, which comprises a functional substance filled in said pores, wherein the entrances of said pores are closed by means of the formation of said bond ~~in~~between said functional groups.

7. (original): The mesoporous inorganic material as defined in claim 6, wherein said functional substance is at least one selected from the group consisting of a steroid compound, a vitamin compound, a hormone compound, a pharmacologically active compound, a pesticidal compound, a physiologically active compound, an amino acid compound, a saccharide compound, a fatty acid compound and a nucleic acid compound.

8. (withdrawn): A method of incorporating and/or removing a chemical substance, comprising the steps of:

preparing a mesoporous inorganic material having an ordered array structure of a plurality of one-dimensional pores, wherein the entrances of said pores have ~~a~~-functional groups capable of forming a bond therebetween based on a chemical reaction in response to an external stimulus and said functional groups are not present within said pores;

incorporating a chemical substance in said pores; and

applying said external stimulus to said mesoporous inorganic material to form a bond ~~in~~between said functional groups.

9. (withdrawn): A method of controllably releasing a functional substance, comprising the steps of:

preparing a mesoporous inorganic material having an ordered array structure of a plurality of one-dimensional pores, wherein the entrances of said pores have ~~a~~-functional groups capable of forming a bond therebetween and splitting said bond based on a chemical reaction in response to an external stimulus, said functional groups are not present within said pores, and a functional substance is confined in said pores by means of formation of said bond ~~in-between~~ said functional groups;

applying a first external stimulus to said mesoporous inorganic material to split said bond ~~in-between~~ said functional groups to release said functional substance from said pores; and

applying a second external stimulus to said mesoporous inorganic material to form said bond ~~in-between~~ said functional groups to discontinue said release of said functional substance.

10. (currently amended): A mesoporous inorganic material having a hexagonal structure, wherein the pores of said mesoporous inorganic material are filled with a functional substance, ~~and~~ the entrances of said pores are closed by a bond formed ~~in-between~~ ~~an~~-organic functional groups and said functional groups are not present within said pores.

11. (withdrawn): A method of producing a mesoporous inorganic material which has ~~an~~-organic functional groups capable of forming a bond therebetween based on a chemical reaction in response to an external stimulus, at the entrances of the pores thereof, and said organic functional groups are not present within said pores, comprising the steps of:

(1) preparing a mesoporous inorganic material having a hexagonal structure by use of a template comprising a surfactant capable of forming a hexagonal structure in an aqueous solution;

(2) introducing ~~an~~ organic functional groups capable of forming a bond therebetween based on a chemical reaction in response to an external stimulus, to said mesoporous inorganic material while leaving the surfactant in the pores of said mesoporous inorganic material; and

(3) removing said surfactant with a solvent.

12. (withdrawn): The method as defined in claim 11, which includes the step of subjecting said mesoporous inorganic material to acid treatment between said preparing step (1) and said introducing step (2).

13. (withdrawn): A method of incorporating and/or removing a chemical substance, comprising the steps of:

preparing a mesoporous inorganic material having a hexagonal structure, wherein the entrances of the pores thereof have ~~an~~ organic functional groups capable of forming a bond therebetween based on a chemical reaction in response to an external stimulus and said organic functional groups are not present within said pores;

incorporating a chemical substance into the pores of said mesoporous inorganic material; and

forming a bond ~~in-between~~ said organic functional groups with an external stimulus.

14. (new): The mesoporous inorganic material of claim 6, wherein said functional groups are capable of forming a bond therebetween and splitting said bond based on a chemical reaction in response to an external stimulus.

15. (new): The mesoporous inorganic material of claim 1, wherein said mesoporous inorganic material has a hexagonal structure and said functional groups are organic functional groups.